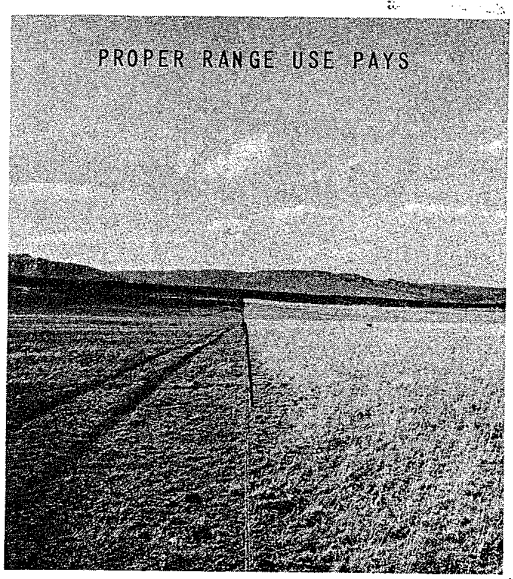
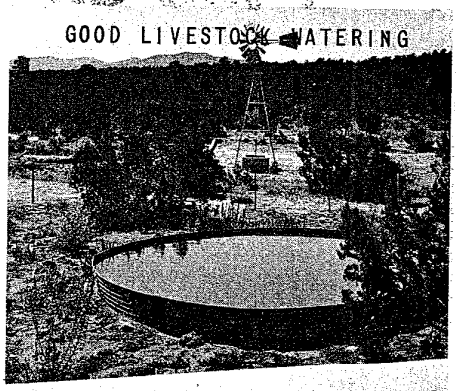
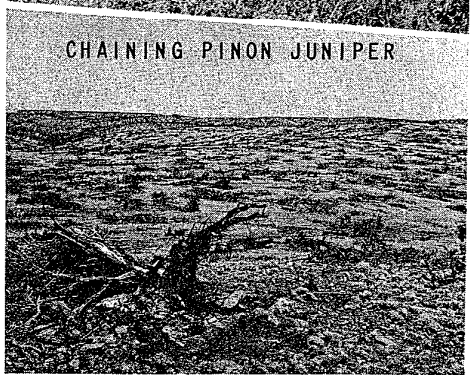
RANGE CONSERVATION - TECHNICAL NOTES







U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
NEW MEXICO

RANGE TECHNICAL NOTE NO. 20

February 27, 1967

Subject: RANGE MANAGEMENT BEFORE AND AFTER BRUSH CONTROL (Part IV)

The information in this Technical Note was developed at a range management workshop, with Soil Conservation Service and University personnel contributing.

This information will serve as guidance, and must be adapted by the technician to specific local conditions.

To: AC's, WUC's
Waldo Frandsen, Portland
Niner, Lohmiller-Los Lunas
Dan Merkel, Santa Fe
E. L. Roget
J. G. Douglas (8)
Records & Reports

CONSIDERATIONS IN APPLYING BRUSH CONTROL

Brush control on part of a pasture causes concentrated grazing on treated areas. One pasture partially dozed in 1964, and aerial sprayed on another section in June 1965, had key forage grasses used 75 percent in treated areas, while the same grasses in untreated areas were used less than 35 percent. Wooded areas commonly receive more grazing in the winter because of greater amounts of cool season grasses. However, in the first year after treatment of a wooded area, the composition is basically the same on the treated and untreated areas, and the degree of use will be greater on the treated area even during the winter months.

Strips of brush can be barriers to grazing distribution, particularly on bottomlands or uplands with dense underbrush where cattle are susceptible to insect attack. Brahma types, goats and sheep will usually make trails through the brush to the next open area.

Spraying for brush control reduces growth of palatable forbs, particularly for the first season and sometimes for several seasons, among perennial forbs. Where these areas are grazed by sheep or goats, the loss of this part of their diet will cause the animals to exert increased grazing pressure on the grass species.

Herbicides appear to have effects on palatability of forage species other than just the effects of additional sunlight and additional moisture. Areas sprayed where only scattered brush or weeds were present, are preferred grazing by all classes of domestic livestock.

Of all brush control methods, burning produces areas most sensitive to grazing use the first season. Because of weakened, unprotected grass crowns, accessibility of new grass growth, and probably due to mineral deposits from the fire, these burned areas are greatly affected by grazing animals. For example, the Engling Wildlife Refuge near Palestine was burned in February, 1966, for brush control. On May 3 these observations were recorded:

> On areas grazed following the burning, only about 25 percent of the old grass sheaths, in the stools of little bluestem, had new growth emerging. This new growth was only five to six inches in height and appeared to be in low vigor. First impression was that the bluestem had grown very little after the burn, and was relatively ungrazed. Closer observation revealed that in grazing, the cattle had pulled the new grass shoots completely out of the old sheaths. The ungrazed blades present were those too short for the animals to get hold of when grazing. This combination of short ungrazed blades with empty old sheaths, gave the appearance of limited growth with light use.

> On areas ungrazed since burning, nearly all the old grass sheaths in the bluestem stools had new growth emerging. The new growth was 10-14 inches in height, had a rich dark green color, and plants were high in vigor. Grazing of burned areas before the meristematic tissue was mature enough to withstand the pull of grazing animals was very destructive to grass stands.

In some instances sprout development of brush species is affected by insects. In the summer of 1965 areas of sprayed mesquite were observed where deferred grazing permitted considerable growth of grass. Here there was much greater use of sprouts by grasshoppers and other insects than in areas where the grass had been closely grazed.